


INSTRUCTOR'S GUIDE SHEETS
MARINE SHEET METAL VENTILATION
SHOP DRAWINGS AND BLUEPRINT READING
Not Intended for Student Use
VOCATIONAL EDUCATION
FOR NATIONAL DEFENSE

Supplement to
Bulletin 347
Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION
Harrisburg

These instructor's guide sheets are to be used in criticizing and grading trainee assignment sheets. The sheet numbers on instructor's guide sheets correspond with shop drawing numbers in the student work book.

Instructors are requested to report errors, by letter, to "Curriculum Laboratory", Room 306, Mastbaum Vocational School, Philadelphia. A revised teacher's guide will be published after sufficient time has elapsed to permit satisfactory try-out, and necessary changes in both the Work Book and Teacher's Guide.

P 38.19
1.31
#347
Sup.
C.2



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UPPER DECK

PORT SIDE - FR. 68-72

Questions

Answers

- | | |
|---|---|
| 1. What frames are included on drawing No. 1? | <u>68 to 72</u> |
| 2. What is the size and shape of the duct? | <u>15" x 8"</u>
<u>Rect.</u> |
| 3. What is the elevation of the duct aft of Fr. 68? | <u>X = 16-1/4</u> |
| 4. What is the elevation of the duct at Fr. 71? | <u>X = 16-1/4</u> |
| 5. What is the elevation of the duct at Fr. 72? | <u>X = 10-1/4</u> |
| 6. What is the rise of type "C" elbow? | <u>6"</u> |
| 7. What is the member "B" called? | <u>Fr. #70</u> |
| 8. State the distance from ℓ of duct to ℓ longitudinal. | <u>16-1/2"</u> |
| 9. State the distance from face of N.W.T. flange to ℓ of Fr. 72. | <u>5-1/4"</u> |
| 10. State the distance from ℓ of duct to longitudinal at Fr. 72. | <u>35"</u> |
| 11. What is the dimension of Fr. 72? | <u>4" x 6"</u> |
| 12. What is the dimension of Fr. 68? | <u>4" x 12"</u> |
| 13. What is the offset in elbow "A"? | <u>18-1/2</u> |
| 14. What kind of flange is 2690? | <u>N.W.T.</u>
<u>Rect.</u> |
| 15. What is the width between the frames? | <u>48"</u> |
| 16. What direction do the frames run? | <u>Transverse</u>
<u>(Port to Stb'd)</u> |
| 17. What direction does the air flow? | <u>Aft.</u> |
| 18. What is the overall dimension of duct shown on this sketch? | <u>16' 11-1/4"</u> |

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THEORY OF THE EARTH

CHAPTER I

1. The Earth is a sphere, and its surface is divided into two parts, the land and the water.

2. The land is divided into continents and islands.

3. The water is divided into oceans and seas.

4. The land is divided into mountains and valleys.

5. The water is divided into rivers and lakes.

6. The land is divided into plains and hills.

7. The water is divided into bays and gulfs.

8. The land is divided into deserts and forests.

9. The water is divided into straits and channels.

10. The land is divided into tundra and steppes.

11. The water is divided into fjords and bays.

12. The land is divided into mountains and valleys.

13. The water is divided into rivers and lakes.

14. The land is divided into plains and hills.

15. The water is divided into bays and gulfs.

16. The land is divided into deserts and forests.

17. The water is divided into straits and channels.

UPPER DECK

STARBOARD SIDE FR. 58-59

<u>Questions</u>	<u>Answers</u>
1. State the length of the spool shown on drawing No. 2	<u>9"</u>
2. State the dimensions of the spool.	<u>16-1/2" x 6"</u> <u>F.O.</u>
3. What is the elevation of the spool?	<u>X = 9</u>
4. What is the meaning of the abbreviation F. O. ?	<u>Flat</u> <u>Oval</u>
5. State the elevation of flange 2678.	<u>X = 4-1/2"</u>
6. What is the <u>ℓ</u> distance from flange 2678 to trolley track?	<u>9"</u>
7. State the <u>ℓ</u> distance from Fr. 58 to Fr. 59.	<u>48"</u>
8. State the <u>ℓ</u> distance from Fr. 58 to oval.	<u>24"</u>
9. State length of the duct from flange 2678 to flange 2690.	<u>5' 4-1/2"</u>
10. State length of the duct from flange 2691 to flange 2690.	<u>5' 3-3/4"</u>
11. State the direction of air flow.	<u>Outboard</u>
12. What item determines whether the system is supply or exhaust?	<u>Diffusing</u> <u>Terminal</u>
13. State the dimensions of the rectangular ducts.	<u>16" x 6" Rect.</u> <u>15-1/2" x 6" Rect.</u>
14. What type flange connects to item 2690?	<u>N.W.T. to W.T.</u>
15. What are the sizes of transformers?	<u>15-1/2" x 6" Rect. to</u> <u>16-1/2" x 6" F. O.</u> <u>16-1/2" x 6" F. O. to</u> <u>16" x 6" Rect.</u>

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

1911

TO THE HONORABLE CHAIRMAN OF THE BOARD OF TRUSTEES

OF THE UNIVERSITY OF CHICAGO

AND TO THE FACULTY

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SUPERSTRUCTURE DK

PORT--FR. 52-54

Questions

Answers

1. What is the scale of drawing No. 3? $3/4" = 1' 0"$
2. How long is the terminal? 7"
3. What is the diameter of the terminal "B"? 10" dia.
4. State the elevation of the terminal "B". $X = 16-1/2"$
5. In water-tight work, what type joint should be made? butt weld
6. What is the elevation of the 4" dia. venturi ejector? $X = 16-1/2"$
7. What is the elevation of the 11" diameter flange? $X = 16-1/2"$
8. State the distance from the \angle of elbow spool to \angle of intake. $59-1/2"$
9. What does the solid and dash lines at "A" indicate? W.T.
10. State the length of the fitting "B-B". $38-1/2"$
11. State the throat radius of elbow "A". 5" radius
12. What is the meaning of the abbreviation, " $1/2 = W.M.$ "? $1/2"$ wire mesh
13. State the location of this layout. Superstructure DK
Port--Fr. 52-54
14. What type of flange is specified for Bh'd 53? N.W.T. to W.T.
15. What is the dimension between metal joiner Bh'd? 6' 6"
16. What is the \angle distance from Bh'd 53 to \angle of $6-1/2"$ diameter, assuming that elbow "A" has 1" straight from radius point to \angle of Bh'd 53? 11"

1. The first part of the paper is devoted to a general discussion of the problem.

2. In the second part, we shall consider the case of a single particle.

3. The third part is devoted to the case of a system of particles.

4. In the fourth part, we shall consider the case of a continuous medium.

5. The fifth part is devoted to the case of a system of continuous media.

6. In the sixth part, we shall consider the case of a system of particles and a continuous medium.

7. The seventh part is devoted to the case of a system of particles and a system of continuous media.

8. In the eighth part, we shall consider the case of a system of particles, a continuous medium, and a system of continuous media.

9. The ninth part is devoted to the case of a system of particles, a system of continuous media, and a continuous medium.

10. In the tenth part, we shall consider the case of a system of particles, a system of continuous media, and a system of continuous media.

11. The eleventh part is devoted to the case of a system of particles, a system of continuous media, and a system of continuous media.

12. In the twelfth part, we shall consider the case of a system of particles, a system of continuous media, and a system of continuous media.

13. The thirteenth part is devoted to the case of a system of particles, a system of continuous media, and a system of continuous media.

14. In the fourteenth part, we shall consider the case of a system of particles, a system of continuous media, and a system of continuous media.

15. The fifteenth part is devoted to the case of a system of particles, a system of continuous media, and a system of continuous media.

16. In the sixteenth part, we shall consider the case of a system of particles, a system of continuous media, and a system of continuous media.

17. The seventeenth part is devoted to the case of a system of particles, a system of continuous media, and a system of continuous media.

PORT SIDE FR. 17-19

<u>Questions</u>	<u>Answers</u>
1. What is the location of duct shown on this drawing?	<u>Port Side Fr. 17-19</u>
2. What is the direction of air through section "A"?	<u>In board</u>
3. State the \angle distance from 8-1/2" x 5" F.O. to Fr. 17.	<u>23-3/4"</u>
4. State the \angle distance from 5-1/2" x 5-1/2" duct to \angle of Fr. 19.	<u>71-1/2"</u>
5. Give sizes of shapes at the split fitting.	5-1/2" x 5-1/2" Rect. 12" x 5-1/2" Rect, 6-1/2" x 5-1/2" Rect.
6. State the distance from \angle of ship to 8-1/2" x 5" F.O. flange.	<u>6' 5-1/4"</u>
7. What is the heel radius of fitting "B"?	<u>10-1/2"</u>
8. State "A" distance from underside of deck to top of 20" x 8" rectangular duct at the extra flange location.	<u>8"</u>
9. State distance between top of 20" x 8" rectangular duct and under- side of Fr. 18.	<u>2"</u>
10. Give the rise of 20" x 8" rectangular elbow.	<u>4"</u>
11. Give the rise of 20" x 8" F.O. elbow.	<u>3"</u>
12. Give direction of air flow in 20" x 8" rectangular duct.	<u>Aft</u>
13. State the \angle distance from 20" x 8" rectangular duct to Fr. 19.	<u>5' 1"</u>
14. What is the scale of this drawing?	<u>3/4" = 1' 0"</u>
15. State the distance from Fr. 19 to flange.	<u>4"</u>

PORT SIDE
UPPER DECK

<u>Item No.</u>	<u>Description</u>	<u>No. Required</u>
1.	3-1/2" diameter 90° - 6" rad. elbow	<u>2</u>
2.	3-1/2" diameter 30° - 6" rad. elbow	<u>1</u>
3.	3" diameter 60° - 5" rad. elbow	<u>1</u>
4.	3" diameter 30° - Collar	<u>1</u>
5.	3-1/2" diameter 30° - Collar	<u>1</u>
6.	3-1/2" spools 9" long	<u>2</u>
7.	4" x 8-3/4" x 7-1/2" heaters	<u>3</u>
8.	8-3/4" x 7-1/2" W.T. flanges	<u>6</u>
9.	3-1/2" diameter W.T. flanges	<u>4</u>
10.	3-1/2" diameter N.W.T. to W.T. flanges	<u>4</u>
11.	3-1/2" diameter N.W.T. ring flanges	<u>6</u>
12.	3" diameter N.W.T. ring flanges	<u>2</u>
13.	6" diameter clean-outs	<u>3</u>

UPPER DECK
STARBOARD SIDE BHD 32-FR 36

Questions

Answers

- | | |
|---|---------------------|
| 1. State the overall length of the long duct. | <u>17' x 10"</u> |
| 2. State the length of rectangular duct under Fr. 33 and 34. | <u>9' x 9"</u> |
| 3. State the length of rectangular duct under Fr. 35 and 36. | <u>8' x 1"</u> |
| 4. State the X dimension of rectangular duct mar. Fr. 32. | <u>x = 7-3/4"</u> |
| 5. State the X dimension of rectangular duct mar. Fr. 33. | <u>x = 12-1/4"</u> |
| 6. State the X dimension of rectangular duct mar. Fr. 34. | <u>x = 12-1/4"</u> |
| 7. State the X dimension of rectangular duct mar. Fr. 35. | <u>x = 12-3/4"</u> |
| 8. State the X dimension of rectangular duct mar. Fr. 36. | <u>x = 17-9/16"</u> |
| 9. How many collars or "take offs" are on large rect. duct? | <u>4</u> |
| 10. What angles do these collars make to rectangular duct at Fr. 34? | <u>30°</u> |
| 11. State the required number of hangers to support 11 x 12-1/2
duct. | <u>3</u> |
| 12. State the required number of hangers to support 11 x 11
duct. | <u>2</u> |
| 13. State the required number of hangers to support 4-1/2
Terminal line. | <u>1</u> |
| 14. State the required number of hangers to support 6"
Terminal line. | <u>2</u> |

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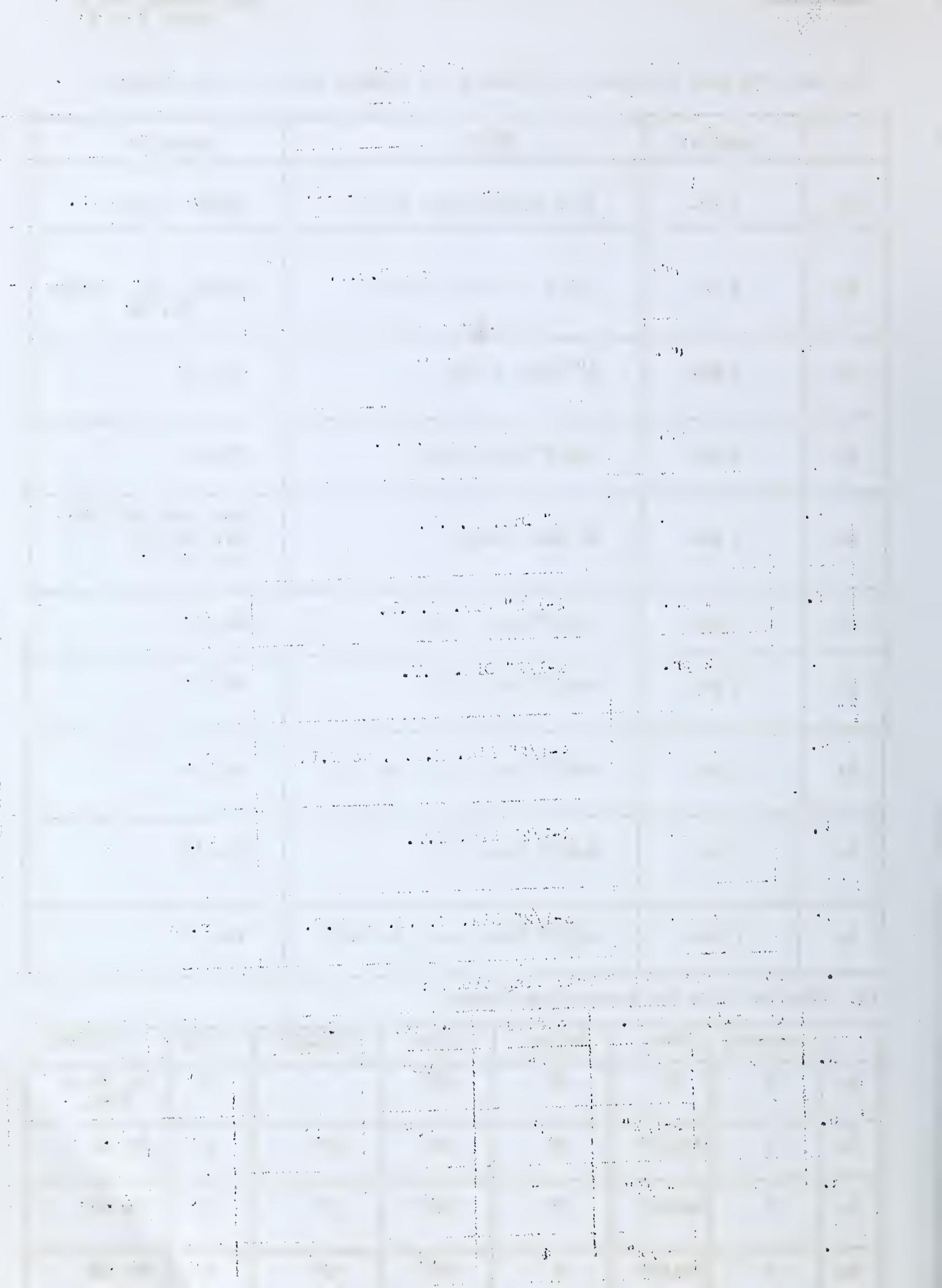
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15. List the data required to fabricate the flanges shown on shop drawing.

	Quantity	Size	Location
a.	1 pr.	11 x 12-1/2 Rect. N.W.T.	#2195 Fr. 32.
b.	2 pr.	11" x 11" Rect. N.W.T.	#2196 - Frs. 34-35- Fr. 36
c.	1 pr.	6" Dia. N.W.T.	Fr. 34
d.	2 pr.	3-1/2" Dia. N.W.T.	Fr. 35
e.	1 pr.	3" Dia. N.W.T.	One each for take off collars Fr. 34.
f.	1 pr.	2-1/2" Dia. N.W.T.	Fr. 36
g.	2 pr.	4-1/2" Dia. W.T.	Fr. 36
h.	2 pr.	4-1/2" Dia. N.W.T. to W.T.	Fr. 36
i.	1 pr.	3-1/2" Dia. W.T.	Fr. 35
j.	1 pr.	3-1/2" Dia. N.W.T. to W.T.	Fr. 35

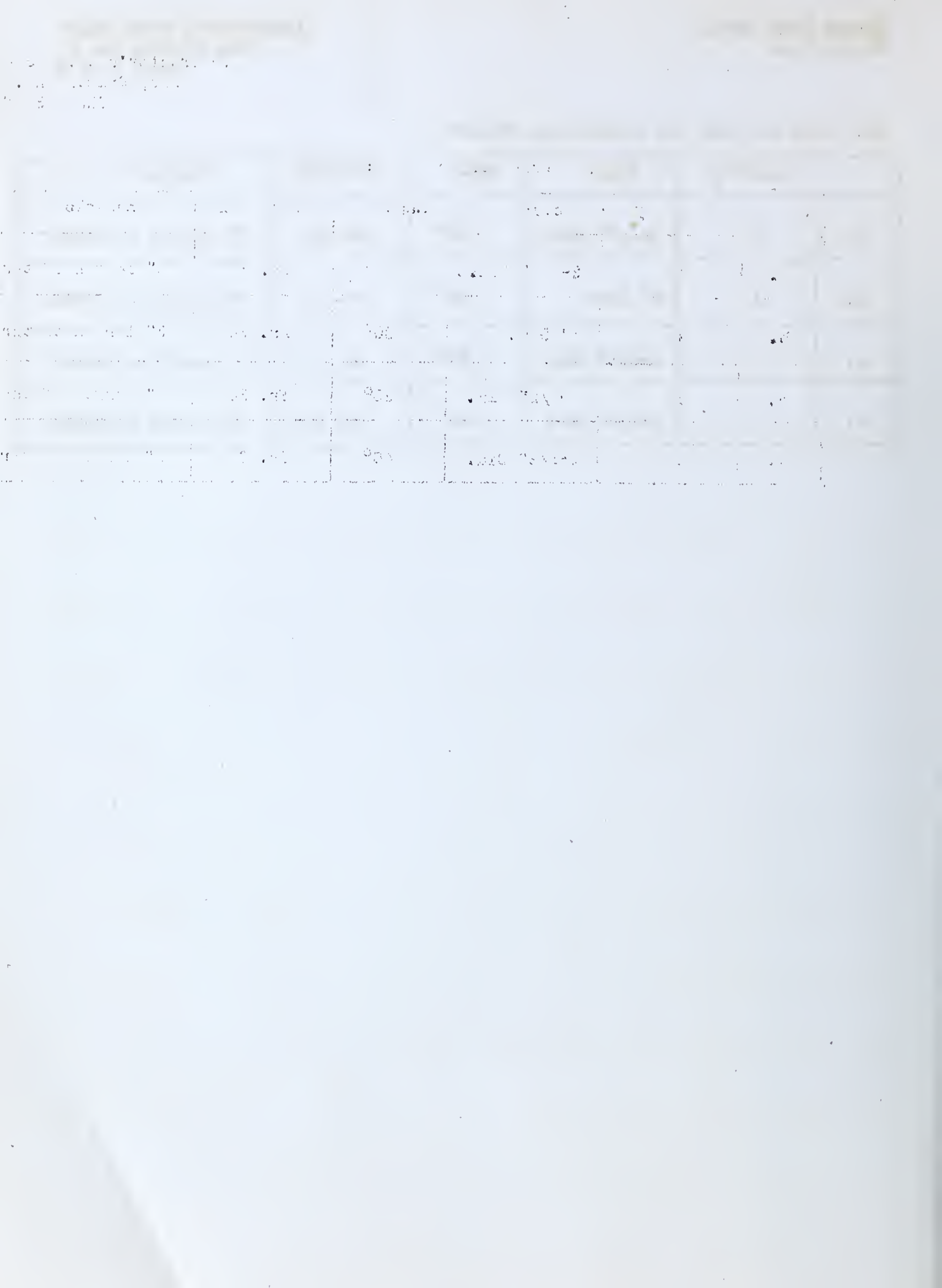
16. List the data for fabricating elbows:

	Quantity	Diam.	Radius	Angles	Straight	Drop	Location
a.	1	6"	6"	90°		0	Fr. 34 at Term.
b.	1	3-1/2"	4"	60°	2"	0	Fr. 34
c.	1	4-1/2"	8"	90°	3"	0	Fr. 36
d.	1	2-1/2"	4	90°	4"	0	Fr. 36



17. List the data for fabricating collars:

	Quantity	Size	Angle	Location	Remarks
a.	1	2-1/2" Dia.	45°	Fr. 32	3" length of throat
b.	1	3" Dia.	30°	Fr. 34	3" length of throat
c.	1	3-1/2" Dia.	30°	Fr. 34	3" length of throat
d.	1	2-1/2" Dia.	40°	Fr. 36	3" length of throat



SUPERSTRUCTURE DK

STARB'D 48 - BH 50

Questions

Answers

1. What is the distance from a \angle of the 18" x 13-1/2" galvanized flange to the \angle of the 13" x 8-1/2" flange? 42-1/4"
2. What is the measurement from DK to DK? 7' 9"
3. What is the "X" measurement of fitting "A"? X = 7'0"
4. What is the size of the duct that contains the damper 1941? 13" x 8-1/2"
5. What is the elevation of the extra flange? X = 11-1/2"
6. State the distance from \angle of extra flange to \angle of 13" x 8-1/2" fitting. 2' 7"
7. What is the distance from Bh'd 50 to \angle of fitting "A"? 19-1/4"
8. What is the distance from \angle of fitting "A" to \angle of 13" x 8-1/2" N.W.T. duct? 6' 0-1/2"
9. What is the direction of air flow? Aft
10. What are the end sizes of fitting "A"? 18 x 13-1/2" rect. to
13 x 8-1/2" rect.
11. What are the end sizes of fitting "B"? 13 x 8-1/2" rect. to
13 x 8-1/2" rect.
12. Name fitting "A". Transforming
Elbow
13. Name fitting "B". 90° Drop
Elbow
14. State the number of flanges shown on print. 4
15. Give the sizes of all flanges. 3 Fg. 13" x 18-1/2"
1 Fg. 18" x 13-1/2"

(Make an elevation sketch of the layout looking for'd.)

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BRIDGE DECK

PORT STARBOARD BHD 39-40

PASSAGE

TO BE MADE OF BRASS

Questions

Answers

1. What is the scale of the drawing? $3/4" = 1' 0"$
2. What Bhd. are included in this layout? 39 & 40
3. State the distance from Bhd. 39 to $9-1/2" \times 4"$ duct. $28-3/4"$
4. State the "X" dimension of $9-1/2" \times 4"$ duct at flange 2143. $X = 7"$
5. State the "X" dimension of $9-1/2" \times 4"$ duct at the No. 8 long'l. $X = 15"$
6. State the "X" dimension of $9-1/2" \times 4"$ duct at Bhd. 40. $X = 8-1/8"$
7. State the "X" dimension of $9-1/2" \times 4"$ duct at long'l 9. $X = 15"$
8. State the "X" dimension of flange 2137. $X = 8-1/8"$
9. State the length of $9-1/2" \times 4"$ duct from flange 2143 to \angle of elbow. $14' 10-1/2"$
10. What is the distance between bottom of section "A" and top of $9-1/2" \times 4"$ duct? 2"
11. What angle does the collar for section "B" make with $16-1/8" \times 8"$ duct "A"? 45°
12. What is the "X" dimension of 5" diameter spool? $X = 5"$
13. State distance from \angle of 5" diameter spool to Bhd. 39. 30"
14. What are the end dimensions of transition "B"? $5" \text{ dia. and } 8-3/4" \times 7-1/2"$
15. Specify the size of 90° elbow on section "B". $8-3/4" \times 7-1/2"$
 $6" \text{ rad. } 90^\circ$

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describes the general situation
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describes the general situation
of the country.

(continued)

16. State the heater dimensions at flange 2189. $4" \times 8\frac{3}{4}" \times 7\frac{1}{2}"$
17. What angle does the collar for section "C" make with "A"? 30°
18. Specify the size of elbow in section "C". 60°
 $4" \text{ rad. } 4\frac{1}{2}" \text{ dia.}$
19. Does the duct "C" go under or through Long. 8? Through; $X = 5"$
20. State the end dimensions of transition piece in duct "C". $8\frac{3}{4}" \times 7\frac{1}{2}" \text{ rect.}$
 $4\frac{1}{2}" \text{ dia.}$
21. What is the "X" dimension of heater at flange 2178? $X = 8$
22. What is the "X" dimension of collar on section "D". $X = 7$
23. Specify the size of the 60° elbow on section "D". 60°
 $5" \text{ rad; } 4\frac{1}{2}" \text{ dia.}$
24. Specify the size of the 90° elbow on section "D". 90°
 $4\frac{1}{2}" \text{ rad; } 4\frac{1}{2}" \text{ dia.}$
25. State the number of elbows shown on drawing. 6
26. Make an elevation sketch of this layout.

MAIN DECK

PORT & STARB'D BH 17-19

FAN ROOM

Questions

Answers

1. State the scale of drawing No. 9. 1" = 1'0"
2. State the size of the terminal. 3" dia.
3. What is the item number of the flange near adjustable baffle? 2120
4. State the size of the duct at flange 2120 which contains baffle. 11" x 6 $\frac{1}{2}$ "
5. What is the "X" measurement of the flange 2120? X = 13"
6. What is the elevation of the duct "B"? X = 7 $\frac{1}{4}$ "
X = 13"
7. State the distance from g to g between Fr. 18 and 19. 47 $\frac{1}{2}$ "
8. State the direction of air flow. Starb'd side
9. State the distance from M.J. Bh'd to g of Fr. 18. 29"
10. State the distance M.J. Bh'd to g of 12" x 10" flange 15-5/8"
11. State the offset distance O.G. fitting duct 7 $\frac{1}{2}$ x 6 $\frac{1}{2}$. 15"
12. State the g to g distance between 5" diameter duct and Fr.18. 7 $\frac{1}{4}$ "
13. State the elevation of 5" diameter duct at intake. X = 19"
14. State the elevation of the 6" diameter duct connecting terminal. X = 13"
15. What type of ventilation is shown? N.W.T.
16. What is the rise of O.G. fitting? 5 $\frac{3}{4}$ "
17. What is the size of Fr. 18? 7" x 7"

1. The first part of the document is a list of the names of the persons who were present at the meeting.

2. The second part of the document is a list of the names of the persons who were absent from the meeting.

3. The third part of the document is a list of the names of the persons who were present at the meeting.

4. The fourth part of the document is a list of the names of the persons who were absent from the meeting.

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SUPPLY SYSTEM IN 5" POWDER MAG. G

Note: Read Drawing No. 10 and list in column A the name of items shown on drawing; Column B the end sizes of each item; Column C the location of each item. See Item No. 1 as an example.

<u>Item</u>	<u>A- Name of Item</u>	<u>B. End sizes</u>	<u>C. Location</u>
1.	<u>Transition</u>	<u>$13\frac{1}{2}$ x 6 F.O. to 8" dia.</u>	<u>Frs. 148-149</u>
2.	<u>Reducing offset</u>	<u>$13\frac{1}{2}$" x 6" F.O. to $13\frac{1}{2}$" x 4" F.O.</u>	<u>Frs. 149-150</u>
3.	<u>Central Reducer</u>	<u>$13\frac{1}{2}$" x 4" F.O. to $11\frac{1}{2}$" x 4" F.O.</u>	<u>Frs. 150-151</u>
4 & 5.	<u>Straight Duct</u>	<u>$11\frac{1}{2}$" x 4" F.O.</u>	<u>Frs. 152-154</u>
6.	<u>"Y" Branch</u>	<u>Base = $11\frac{1}{2}$" x 4" F.O. Branches = 6" x 4" F.O.</u>	<u>Frs. 155-156</u>
7.	<u>45° Elbow</u>	<u>6" x 4" F.O.</u>	<u>Frs. 156-157</u>
8.	<u>Central Reducer</u>	<u>6" x 4" F.O. to 8"x$2\frac{1}{2}$" F.O.</u>	<u>Frs. 156-157</u>
9.	<u>F.O. 90° Elbow</u>	<u>8" x $2\frac{1}{2}$" F.O. (on flat)</u>	<u>Frs. 156-157</u>
10.	<u>Straight Duct</u>	<u>6" x 4" F.O.</u>	<u>Frs. 156-157</u>
11.	<u>Straight Duct</u>	<u>6" x 4" F.O.</u>	<u>Frs. 156-157</u>
12.	<u>Central Reducer</u>	<u>6" x 4" F.O. to 8"x$2\frac{1}{2}$" F.O.</u>	<u>Frs. 156-157</u>
13.	<u>F.O. 90° Elbow</u>	<u>8" x $2\frac{1}{2}$" F.O. (on flat)</u>	<u>Frs. 156-157</u>
14.	<u>F.O. 90° Elbow</u>	<u>8" x $2\frac{1}{2}$" F.O. (on flat)</u>	<u>Frs. 150-151</u>
15.	<u>Central Transformer</u>	<u>8" x $2\frac{1}{2}$" F.O. to $4\frac{1}{2}$" Dia.</u>	<u>Frs. 150-151</u>
16.	<u>90° Elbow</u>	<u>$4\frac{1}{2}$" Dia.</u>	<u>Frs. 150-151</u>

<u>Item</u>	<u>A. Name of Item</u>	<u>B. End Sizes</u>	<u>C. Location</u>
17.	<u>90° Elbow</u>	<u>4½" Dia.</u>	<u>Frs. 149-150</u>
18.	<u>Straight Duct</u>	<u>4½" Dia.</u>	<u>Frs. 149-150</u>
19.	<u>45° Collar</u>	<u>4½" Dia.</u>	<u>Frs. 149-150</u>
20.	<u>45° Elbow</u>	<u>4½" Dia.</u>	<u>Frs. 149-150</u>
21.	<u>Central Transformer</u>	<u>4½" Dia. to 8"x2½" F.O.</u>	<u>Fr. 150</u>
22.	<u>F.O. 90° Elbow</u>	<u>8" x 2½" F.O. (on sharp)</u>	<u>Frs. 150-151</u>
23.	<u>F.O. 90° Elbow</u>	<u>8"x2½" F.O. (on flat)</u>	<u>Frs. 150-151</u>
24.	<u>W.T. 90° Elbow</u>	<u>8" Dia.</u>	<u>Frs. 147-148</u>
25.	<u>W.T. Closure (valve)</u>	<u>8" Dia.</u>	<u>Frs. 148</u>

ALTERATION FOR NEW K-DR

2ND DK - PORT & STARB'D SIDE

FRS. 90-94 - SUP.SYS.

Note: Listed below are some of the fittings shown on drawing No. 11, and dimensions required to fabricate each fitting. Read the drawing to obtain the necessary fabrication dimensions and then record findings in the spaces provided on this sheet.

1. Type C Elbow

Size at flange end	<u>20"x12" Rect.</u>	Size at opposite end	<u>20"x12" Rect.</u>
"X" dimension	<u>14-1/4"</u>	"X" dimension	<u>14-1/4"</u>
Length of Straight	<u>21"</u>	Throat radius	<u>20"</u>
Location	<u>Long. 4 & 5</u>	Splitter radius	<u>30"</u>

2. Fitting No. C

Size at elbow end	<u>20"x12" Rect.</u>	Size at opposite end	<u>24"x12" Rect.</u>
"X" dimension	<u>14-1/4"</u>	"X" dimension	<u>14-1/4"</u>
Length	<u>18"</u>	Straight on	<u>Aft side</u>
Location	<u>Long. #3</u>		

3. Transformer No. D

Size at flange end	<u>27-1/2" x 12" F.O.</u>	Size at opposite end	<u>24"x12" Rect.</u>
"X" dimension	<u>12"</u>	"X" dimension	<u>14-1/4"</u>
Length of transformer	<u>28"</u>	Length of straight	<u>24"</u>
Offset	<u>2 1/4"</u>	Location	<u>Long. 2 & 3</u>

4. Spool

Size of spool 27-1/2"x12" F.O. Length 9"

"X" dimension 12" Location Long. 1&2

5. Straight F.O. Duct

Size of spool end 27-1/2"x12" F.O. Size at opposite end 27-1/2"x12" F.O.

Length 6' 0" Location Long. #1

6. Branch "A" Collar #1

Size 7-1/2" dia. Length of throat 3"

Angle 30° Location Long. #3

7. Branch "A" Elbow #2

Size 7-1/2" dia. Length of Straight 14"

Angle 60° Location Long. 3&4

Radius 5-1/2"

8. Branch "A" Reducer #3

Size at elbow end 7-1/2" dia. Size at terminal 11" dia.

"X" dimension 22" "X" dimension 22"

Size at Fr. 93 9"x18" web Location Fr. 93 •
Between Long. 3&4

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization.

2. The second part outlines the specific procedures for recording transactions. It details the steps involved in the accounting process, from the initial entry to the final reconciliation.

3. The third part addresses the role of the accounting department in ensuring compliance with relevant laws and regulations. It highlights the need for ongoing monitoring and reporting to avoid any legal issues.

4. The fourth part discusses the importance of regular audits and reviews. It explains how these processes help in identifying any discrepancies or errors and ensuring that the financial statements are accurate and reliable.

5. The fifth part concludes by reiterating the commitment to high standards of financial management and the importance of collaboration between all departments to achieve the organization's goals.

9. Branch A - Terminal

Size of terminal	<u>11" dia.</u>	Location	<u>Fr. 93</u> <u>Between Long. 3&4</u>
"X" dimension	<u>22"</u>	Type of terminal	<u>E</u>

10. Branch B - Collar

Size of collar	<u>8" dia.</u>	Length of throat	<u>3"</u>
"X" dimension	<u>14-1/4"</u>	Angle	<u>30°</u>

11. Branch B - Elbow at Collar

Size	<u>8" dia.</u>	Length of straight	<u>8"</u>
Angle	<u>60°</u>	Location	<u>Long. #5</u>
Radius	<u>8"</u>		

12. Branch B - Duct

Size	<u>8" dia.</u>	Location	<u>Long. #6</u>
"X" dimension	<u>14-1/4"</u>	Length	<u>5' 0"</u>

13. Branch B - Elbow (at Terminal End)

Size	<u>8" dia.</u>	Length of straight	<u>1" lap</u>
Angle	<u>45°</u>	Location	<u>Long. #7</u>
Radius	<u>8"</u>		

14. Branch B - Reducer

Size at elbow end	<u>8" dia.</u>	Size at terminal end	<u>11" dia.</u>
"X" dimension	<u>16"</u>	"X" dimension	<u>16"</u>
Length	<u>24"</u>	Location	<u>Long. #8</u>

UPPER DECK

STARBOARD SIDE PASSAGE

1. What are the dimensions of the heater?
 - a. Size (Flg. 2242) 23-3/4" x 10" dimension 11-1/2"
 - b. Length of heater 5" Location BH'D 44
2. What are the dimensions of Transition fitting from heater to item "A"?
 - a. Size at flange end 23-3/4" x 10" Rect. X dimension 11-1/2"
 - b. Size at elbow end 12" x 5" Rect X dimension 10-1/2"
 - c. Size of access hole 6" x 8" Location In fitting between heater and elbow "A"
3. What are the dimensions of elbow "A"?
 - a. Size at Flg. end 12" dia. X dimension X= 9-1/2"
 - b. Size at Fr. 45 12" x 5" X dimension X= 10-1/2"
 - c. Throat radius 10" Angle 90°
 - d. Location Fr. 45

4. What are the dimensions of Fitting "B"?

a.	Size at spool end	<u>12" dia.</u>	X dimension	<u>X = 9-1/2"</u>
b.	Size at Flg. end 3037	<u>11" x 10"</u>	X dimension	<u>X = 16"</u>
c.	Length of straight (spool end)	<u>18"</u>		
d.	Length of straight (flange end)	<u>12"</u>		
e.	Radius of throat	<u>5" rad.</u>	Angle	<u>90°</u>
f.	Size of Splitter	<u>5-3/4" x 10"</u>	Location	<u>Between Fr. 45 - 46</u>
g.	Size at flg. 2222 end	<u>11" x 6" Rect.</u>	X dimension	<u>X = 6"</u>
h.	Length of straight near Fr. 44	<u>24"</u>		
i.	Diameter of collar	<u>3" dia.</u>	Location	<u>Between Fr. 44-45</u>

5. What are the dimension for straight duct?

a.	Size of duct	<u>11" x 10" Rect.</u>	X dimension	<u>X = 16"</u>
b.	Length of duct	<u>7' 6"</u>	Drop	<u>None</u>
c.	Location	<u>Between Fr. 45-48</u>		

SUPERSTRUCTURE DK.

STARBOARD FR 40-44

Questions

Answers

- | | |
|---|---|
| 1. What is the location of this job? | <u>Superstruct Dk.
Star'bd. Fr. 40-44</u> |
| 2. State the dimensions of flange 2665. | <u>10" x 4" F.O.</u> |
| 3. What is the distance from \angle to \angle between flange 2265 and Fr. 41? | <u>10$\frac{1}{4}$"</u> |
| 4. State the length from flange to flange of the 9 x 4 duct. | <u>54-5/8"</u> |
| 5. State the distance from \angle to \angle flange 2678 and frame 41. | <u>11-1/8"</u> |
| 6. What is the throat radius of type "C" elbow? | <u>10"</u> |
| 7. State the elevation of flange 2679. | <u>x = 10"</u> |
| 8. State the length of the 11x 8 N.W.T. duct. | <u>9' 10-3/8"</u> |
| 9. State the drop of the 11 x 8 N.W.T. duct. | <u>1-1/4"</u> |
| 10. How many flanges are shown in this detail? | <u>11</u> |
| 11. What type baffle is installed at the branch? | <u>Adjustable</u> |
| 12. What size split is specified in type "C" elbow? | <u>8"</u> |
| 13. What is the drop in the type "C" elbow? | <u>6"</u> |
| 14. What is the rise in the "A" fitting? | <u>1"</u> |
| 15. How many spools are shown? | <u>1</u> |
| 16. What is the dimension of the fitting that connects the duct to flange 2665? | <u>9" x 4" Rect. to
10" x 4" F.O.</u> |
| 17. State distance from \angle of ship to \angle of spool. | <u>59-1/8"</u> |

